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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

First Named Applicant: Chakrabarti)	Art Unit: 2176
Serial No.: 09/523,639)	Examiner: Nguyen
Filed: March 10, 2000)	AM9-98-128
For: METHOD AND SYSTEM FOR DISTRIBUTED AUTONOMOUS MAINTENANCE OF BIDIRECTIONAL HYPERLINK METADATA ON THE WEB AND SIMILAR HYPERMEDIA REPOSITORY)	July 27, 2004 750 B STREET, Suite 3120 San Diego, CA 92101

RULE 132 DECLARATION

I, Kevin S. McCurley, declare as follows:

I am one of the original inventors of the invention claimed in the above-captioned application.

As evidenced by the enclosed IBM document entitled "CLEVER Browsing", written by two of my co-inventors and bearing a facsimile date of August 17, 1998, the present invention was conceived prior to 1999.

Specifically, using the limitations of Claim 1 as an example and referring to the enclosed document, we conceived of a user computer (page 2, left-hand block) and a data input device associated with the user computer ("user clicks on link" clearly indicates a mouse-type input device). A Web server communicating with the user computer is also indicated in the figure on page 2 ("browser sends "from s1/p1.htm" to server"). The figure on page 3 entitled "WBI-based Architecture" also shows these components.

The text on page 2 also indicates that the server ("s2") is invoked when a link s2/p2 on a page s1/p1 is clicked, and that the server s2 logs the source URL s1/p1. This corresponds to the inlinks to at least one Web page associated with the Web server. That tables may be used is mentioned on page 5.

As set forth on page 3, an applet at the user's browser ("user logic means at the user computer") accesses the table of inlinks to facilitate generating a list of outlinks of the inlinks, for accessing the outlinks (page 4,

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referred to as "back links"). Page 6 refers to the concept of inlinks and outlinks as "interactive bidirectional exploration".

In addition, the enclosed document indicates, and I hereby declare as a matter of first hand knowledge, that the invention was reduced to practice in 1998. Specifically, page 4 indicates that a "demo" was in existence as of the date of the enclosed document, and page 6 indicates that "several users are already addicted". I have also reviewed my source code logs to confirm that the invention of Claim 1 was implemented in computer code in 1998.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United State Code and that such willful, false statements may jeopardize the validity of the application or any patent issued thereon.

Kevin S. McCurley
BY: Kevin S. McCurley
date: 7-28-2004

1033-39, DEC


FROM

(THU) JUL 29 2004 10:38/ST. 10:36/No. 6833031072 P 4

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Respectfully submitted,



John L. Rogitz
Registration No. 33,549
Attorney of Record
750 B Street, Suite 3120
San Diego, CA 92101
Telephone: (619) 338-8075

JLR:jg

1053-24.DEC

FROM

(THU) JUL 29 2004 10:38/ST.10:36/No. 6833031072 P 5

AUG 17 '98 09:41 FR ALMADEN IP LAW

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Also referred to as "Backward Crawling"

Discl. No. AM8-98-0134

CLEVER Browsing

David Gibson

Soumen Chakrabarti

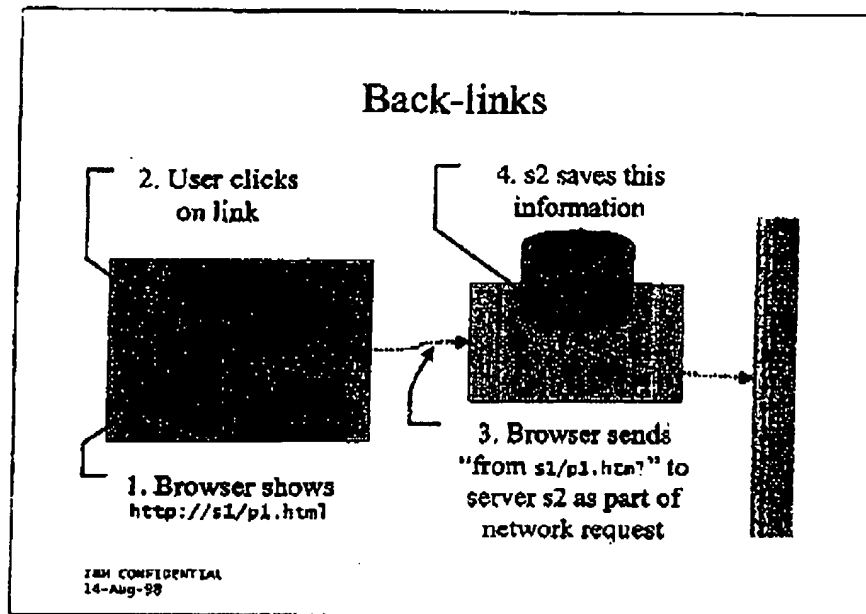
- Help user discover high-quality resources in the neighborhood faster
- Make hyperlinks bidirectional
 - ◆ HTTP extensions
 - ◆ Back-link browser

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10-AUG-98

We propose a decentralized, cooperative world-wide server network to replace today's centralized crawlers and directories.

Users roaming in this cooperative network will be naturally aware of high-quality resources in their vicinity.

A key piece in this is an extension of HTTP to support bidirectional links, and a browser extension that lets us freely browse backwards.



Today, we depend on a substantial web crawl by Alta Vista or HotBot to be able to search for pages that point to a given page.

This is not necessary! Browsers can cooperate with servers to maintain this information in a scalable decentralized way.

When a link s2/p2 shown on page s1/p1 is clicked, most browsers today pass the source URL, s1/p1, to the server s2 along with the request, in a field called `HTTP_REFERER`.

S2 is free to log this information, and this is done in many servers.

We propose data structures which will store the most frequent traffic sources in bounded space and negligible impact on server performance.

Most importantly, we propose a protocol for querying this information via an extension of HTTP.

Note that there is no security issue, since a web crawl that can reach s1/p1 would reveal the link anyway.

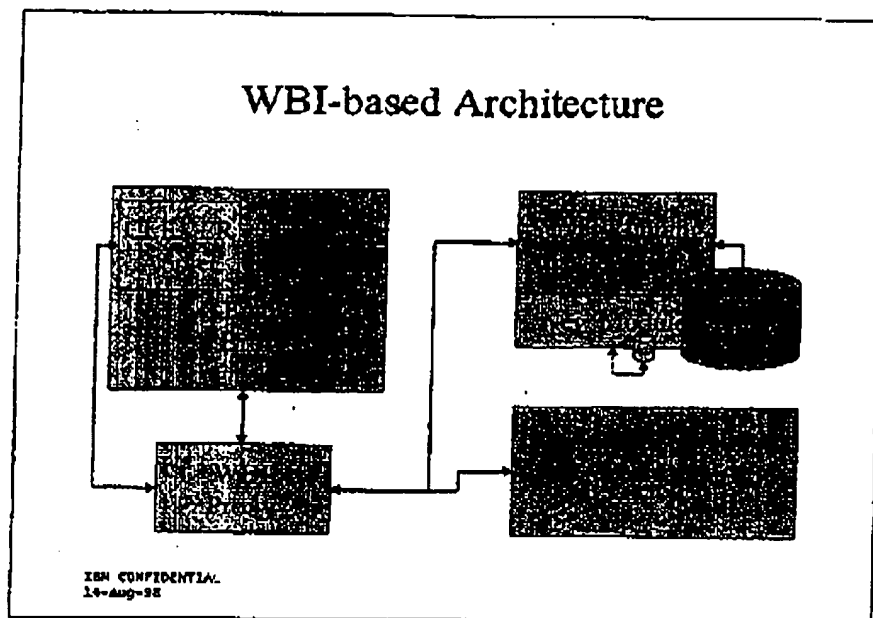
FROM

AUG 17 '98 09:43 FR ALMADEN IP LAW

(THU) JUL 29 2004 10:38/ST. 10:36/No: 6833031072 *P 7

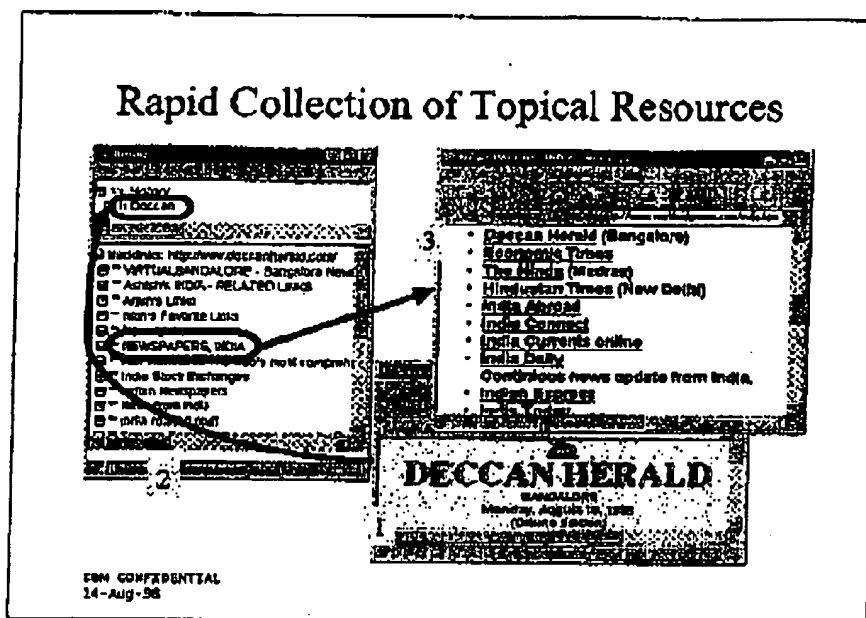
TO 916193388078

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Here is how our system works. An applet coexists with the browser, tracking the current page. It uses the enhanced HTTP or other services to lazily update a list of pages pointing into the current page.

For our demo, we will use HotBot. We want most servers to support our new module so that dependence on a crawl can be eliminated.



The ability to freely follow back-links surprisingly boosts our ability to find topical resources in the near vicinity which we may otherwise miss.

Here is one example, there are many other that you will see in the demo.

We start from one Indian newspaper, and within one click, locate a large resource list of many Indian newspapers.

(Demo)

Benefits and Enhancements

● Benefits

- ♦ Interactive bidirectional browsing
- ♦ Human judgement in locating resources
- ♦ Decentralized world-wide CLEVER
- ♦ *An alternative to portal presence!*

● Enhanced features

- ♦ Take my history and construct a taxonomy populated with hubs (Notes demo)
- ♦ Build me a personal library about "finance"

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We are very good at judging pages by title. Machines are nowhere as good.

Automatic solution: expand graph, prune all but the best.

Manual solution: browser proposes (and helps), user decides.

In effect, the back-link tables in servers around the world will be implicitly performing CLEVER computations!

Technical advantage: no need for centralized crawl

Strategic advantage: no need for portal presence for internet mindshare, downloadable software will suffice.

Can add various "mining" features.

FROM

AUG 17 '98 09:45 FR ALMADEN IP LAW

(THU) JUL 29 2004 10:39/ST. 10:36/No. 6833031072 P 10

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Strategy

- AlphaWorks download for applet?
 - Get users addicted even before Apache update
- Apache module for back-link database
 - Small footprint, added utility for webmasters
 - Need W3C, Apache, IBM's help to distribute
- Add "mining" functions incrementally
 - Upgrades to applet, connections to CLEVER
 - Trojan horse for Focused Crawling project

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14-Aug-98

In conclusion:

Interactive bidirectional exploration is key to rapid resource location.



Several users are already addicted!

We need IBM, Apache, and W3C's support to make it happen.

This can lead to very rapid deployment of CLEVER technology without sharing mindshare with crawl and index providers.